**PROMISE®**
**TECHNOLOGY, INC.**

# VTRAK
# E-Class
## E310f and E310s
# QUICK START GUIDE

Version 1.0

# VTrak E-Class Task List

Step 1: Unpacking the VTrak (below)

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Step 8: Creating Disk Arrays with WebPAM PROe (page 29)

For complete information about your VTrak E310f/s subsystem, see the *VTrak E-Class Product Manual* on the CD.

## *Step 1: Unpacking the VTrak*

The VTrak box contains the following items:

- VTrak Unit
- Quick Start Guide
- Front bezel and key
- Left and right center-mount brackets
- Left and right mounting rails

- RJ11-to-DB9 serial data cable
- Screws for disk drives (50, including 2 spares)
- 1.5m (4.9 ft) Power cords (2)
- CD with SNMP files, *Product Manual* and *Quick Start Guide*

**Warning**

The electronic components within the VTrak disk array are sensitive to damage from Electro-Static Discharge (ESD). Observe appropriate precautions at all times when handling the VTrak or its subassemblies.

**Important**

Use the following categories of network cables with VTrak:

• Cat 6, preferred

• Cat 5E, minimum
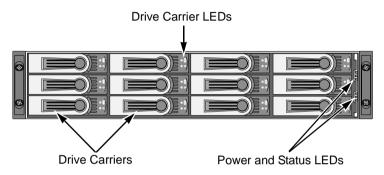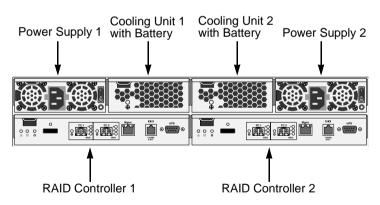
*Figure 1.  VTrak E310f/s front view*

Drive Carrier LEDs



Drive Carriers

Power and Status LEDs

*Figure 2.  VTrak E310f rear view*

Power Supply 1

Cooling Unit 1 with Battery

Cooling Unit 2 with Battery

Power Supply 2


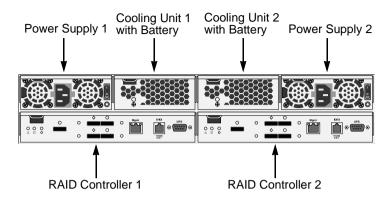
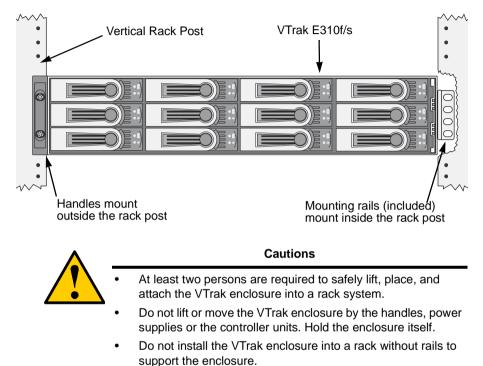RAID Controller 1

RAID Controller 2

***Figure 3. VTrak E310s rear view***

# *Step 2: Mounting VTrak in a Rack*

The E-Class subsytems installs to the rack using the supplied mounting rails. You can also use your existing rails.

*Figure 4.   VTrak E310f/s mounted in a rack with the supplied rails*



Vertical Rack Post

VTrak E310f/s

Handles mount outside the rack post

Mounting rails (included) mount inside the rack post

**Cautions**

- At least two persons are required to safely lift, place, and attach the VTrak enclosure into a rack system.
- Do not lift or move the VTrak enclosure by the handles, power supplies or the controller units. Hold the enclosure itself.
- Do not install the VTrak enclosure into a rack without rails to support the enclosure.

To install the VTrak enclosure into a rack with the supplied mounting rails:

1. Check the fit of the mounting rails in your rack system.
2. Slide the plates out of the mounting rails.
3. Attach one plate to each side of the VTrak enclosure.

    Line-up the two studs and six holes in the plate with the corresponding holes in the enclosure. Attach each plate with six screws (included).
4. Slide one of the rails over the plate on one side of the enclosure.

    The rail is designed to slide freely over the plate.
5. Attach a four-hole flange to the rail, with the flange toward the front (disk drive end) of the enclosure.

    Install four rail adjustment screws (included) through the flange into the rail.
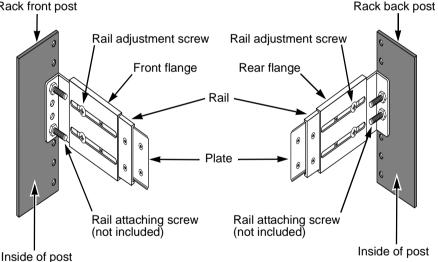
6. Attach a two-hole flange to the rail, with the flange toward the back (connector end) of the enclosure.

    Install four rail adjustment screws (included) through the flange into the rail.

7. Repeat steps 4 through 6 to attach the other rail and flanges to the enclosure.

8. Place the enclosure with mounting rails into your rack system.

9. Attach the four-hole flanges to the inside of the rack's front post, using the attaching screws from your rack system.

10. Attach the two-hole flanges to the inside of the rack's rear post, using the attaching screws from your rack system.

11. Square the rails in the rack.

12. Tighten the adjustment screws and the attaching screws.

*Figure 5.   Rack mount assembly diagram*

# Step 3: Installing Disk Drives

You can populate the VTrak with SAS or SATA hard disk drives. For optimal performance, install physical drives of the same model and capacity. The drives' matched performance allows the logical drive to function better as a single drive. The table below shows the number of drives required for each RAID level.
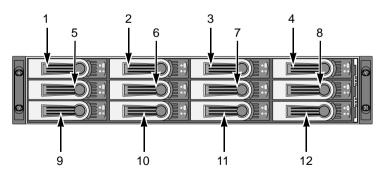
| Level | Number of Drives | | Level | Number of Drives |
|---|---|---|---|---|
| RAID 0 | 1 or more | | RAID 6 | 4 to 16* |
| RAID 1 | 2 only | | RAID 10 | 4 or more** |
| RAID 1E | 2 or more | | RAID 50 | 6 or more |
| RAID 5 | 3 to 16* | | RAID 60 | 8 or more |

\* Drive counts above 12 require an expansion unit.
\*\* Must be an even number of drives.

## Drive Slot Numbering

You can install any suitable disk drive into any slot in the enclosure. The diagram below shows how VTrak's drive slots are numbered. Slot numbering is reflected in the WebPAM PROe and CLU user interfaces.

**Figure 6.  VTrak E310f/s drive slot numbering**



Install all of the drive carriers into the VTrak enclosure to ensure proper airflow, even if you do not populate all the carriers with disk drives.

## AAMUX Adapter

If your VTrak has dual controllers—Fibre Channel or SAS—and you plan to install SATA drives, you **must** install an AAMUX adapter with each SATA drive. AAMUX adapters are available from Promise Technology.
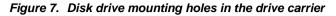
## Installing Disk Drives

1. Remove a disk drive carrier.
2. SATA drives only. Place the AAMUX adapter into the disk drive carrier and attach it with the four screws. See Figure 8.
   - Install only the screws supplied with the adapter.
   - The adapter fits into the carrier with the SAS connector at the back.
   - Snug each screw. Be careful not to over tighten.
3. Carefully lay the disk drive into the drive carrier at the front, so that the screw holes on the bottom line up.

   If you installed an AAMUX adapter, lay the SATA disk drive into the carrier and slide it so the power and data connectors insert in to the adapter.
4. Insert the screws through the holes in the drive carrier and into the bottom of the disk drive. See Figure 7.
   - Install only the counter-sink screws supplied with the VTrak.
   - Install four screws per drive.
   - Snug each screw. Be careful not to over-tighten.
5. Reinstall the drive carrier into the VTrak chassis.

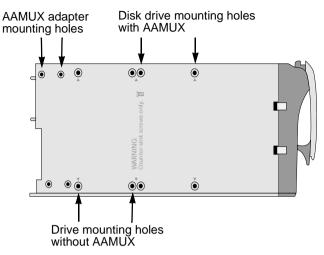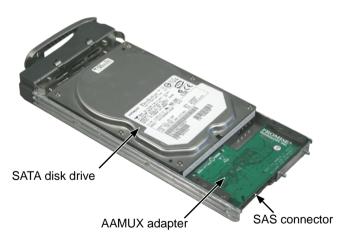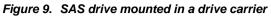Repeat steps 2 through 5 until all of your disk drives are installed.

**Figure 7.  Disk drive mounting holes in the drive carrier**



**Figure 8.  SATA drive mounted in a drive carrier with the required AAMUX adapter**

*Figure 9.  SAS drive mounted in a drive carrier*



SAS disk drive

# *Step 4: Making Management and Data Connections*

For Serial Attached SCSI setup, go to page 16.
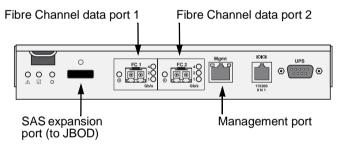
## Fibre Channel

VTrak models can have one or two RAID controllers. Each controller has an Ethernet (RJ45) Management Port connector that enables you to monitor the VTrak over your network using the WebPAM PROe Software. VTrak supports HTTP, HTTPS, and Telnet protocols.

The VTrak E310f RAID controller has two 4-Gb Fibre Channel (FC) connections for the data ports. See Figure 10.

You can configure your VTrak for:

- Storage Area Network (SAN)
- Direct Attached Storage (DAS)
- JBOD Expansion using a SAS data connection

*Figure 10. VTrak E310f controller data and management connectors*



### Configuring a Storage Area Network

A storage area network (SAN) requires:

- A Fibre Channel switch
- A Fibre Channel HBA card in each Host PC/Server
- A network switch
- A network interface card (NIC) in each Host PC/Server
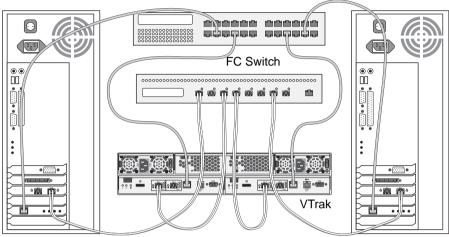
To establish the data path:

On the VTrak controller, connect one of the Fibre Channel data ports to your Fibre Channel switch.

To establish the management path:

1. On the VTrak controller, connect the Management Port to your network switch. Figure 11.

2.    Connect each Host PC's or Server's standard NIC to your network switch.

***Figure 11. VTrak E310f SAN data and management connections***



Host PC or Server                                                           Host PC or Server

### Configuring Direct Attached Storage

Direct attached storage (DAS) requires:

- Two Fibre Channel HBA cards in the Host PC or Server
- A network switch
- A network interface card (NIC) in the Host PC or Server

To establish the data path:

On the VTrak controller, connect one of the Fibre Channel data ports to your Fibre Channel switch. See Figure 12.

To establish the management path:

1.    On the VTrak controller, connect the Management Port to your network switch. See Figure 12.
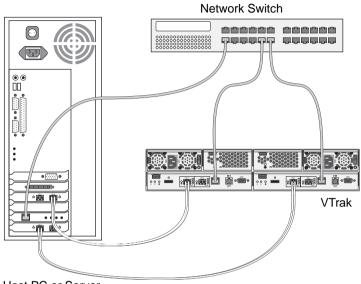2.    Connect the Host PC's or Server's standard NIC to your network switch.

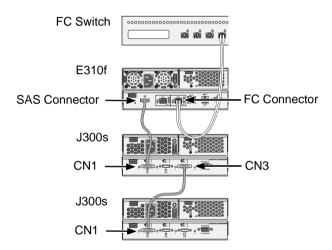**Figure 12. VTrak E310f DAS data and management connections**

Network Switch

VTrak

Host PC or Server

## Configuring JBOD Expansion

To expand the number of disk drives:

1.  On the E310f controller, connect the SAS connector (a subtractive-routed port) to CN1 (a table-routed port) on the I/O module of the first J300s unit. See Figure 13.

2.  Connect CN3 (a subtractive-routed port) on the first J300s unit to CN1 on one of the I/O modules of the next J300s unit.

3.  Connect the remaining J300s units in the same manner.

*Figure 13. VTrak E310f JBOD data connections*

FC Switch

E310f

SAS Connector ——————— FC Connector

J300s

CN1 ——————— CN3

J300s

CN1

You can expand a SAN system with no single point of failure. See Figure 14. Such an arrangement requires:

*   Two Fibre Channel switches
*   Two Fibre Channel HBA cards in each Host PC or Server
*   A network switch (not shown)
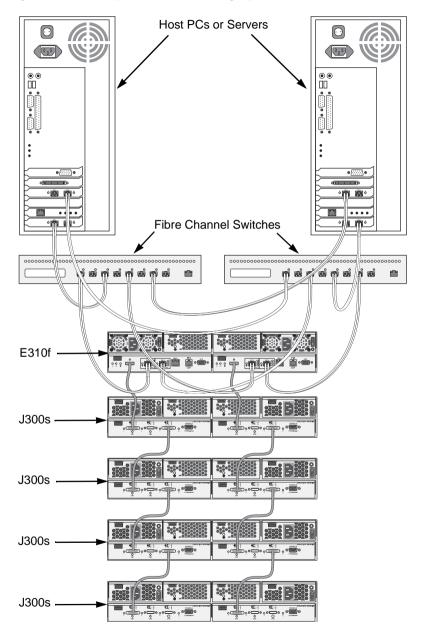*   A network interface card (NIC) in each Host PC or Server

**Figure 14. JBOD expansion with no single point of failure**



Host PCs or Servers

Fibre Channel Switches

E310f

J300s

J300s

J300s

J300s

This completes management and data connections for VTrak E310f.
Go to "Step 5: Making Serial Cable Connections" on page 22.

# Serial Attached SCSI

VTrak models can have one or two RAID controllers. Each controller has an Ethernet (RJ45) Management Port connector that enables you to monitor the VTrak over your network using the WebPAM PROe Software. VTrak supports HTTP, HTTPS, and Telnet protocols.

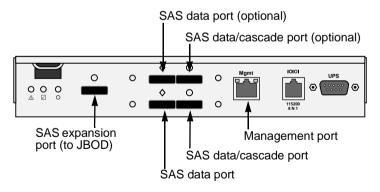The standard VTrak E310s controller has three SAS ports:

- Data port – Connects to the Host PC or Server
- Data/Cascade port – Connects to the data port of a second E310s controller or to the Host PC or Server
- SAS Expansion port – Connects to a VTrak J300s JBOD expansion subsystem

If your VTrak E310s has the optional daughter card installed in the controller, you have two data ports and two data/cascade ports, plus the SAS expansion port.

You can configure your VTrak for:

- Direct Attached Storage (DAS)
- Cascaded Storage (Multiple E310s subsystems)
- JBOD Expansion using a SAS data connection

**Figure 15. VTrak E310s controller data and management connectors**

## Configuring Direct Attached Storage

Direct attached storage (DAS) requires:

• Two SAS HBA cards in the Host PC or Server

• A network switch

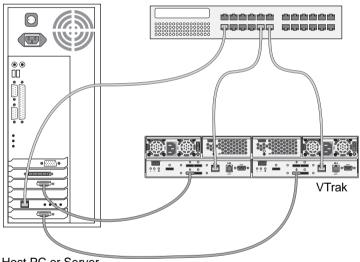• A network interface card (NIC) in the Host PC or Server

To establish the data path:

On the VTrak controller, connect a SAS data port or a SAS data/cascade port to one of your SAS HBA cards. See Figure 16.

To establish the management path:

1. On the VTrak controller, connect the Management Port on each Controller to your network switch. See Figure 16.

2. Connect the Host PC's or Server's standard NIC to your network switch.

**Figure 16. VTrak E310s DAS data and management connections**

Network Switch

VTrak

Host PC or Server

### Configuring Cascaded Storage

Cascaded storage requires:

• One SAS HBA card in the Host PC or Server
• A network switch
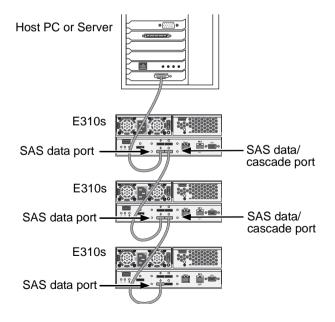• A network interface card (NIC) in the Host PC or Server

To establish the data path:

1. On the VTrak controller, connect a SAS data port or a SAS data/cascade port to your SAS HBA card. See Figure 17.
2. Connect the data/cascade port (a subtractive-routed port) of the first E310s to the data port (a table-routed port) on the second E310s.
3. Connect the remaining E310s controllers in the same manner.

   You can cascade up to eight VTrak subsystems.

To establish the management path:

1. On the VTrak controller, connect the Management Port on each Controller to your network switch. See Figure 18.
2. Connect the Host PC's or Server's standard NIC to your network switch.
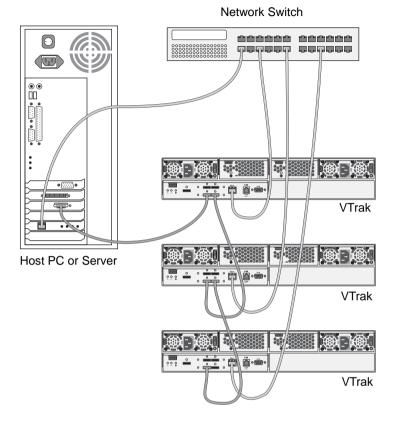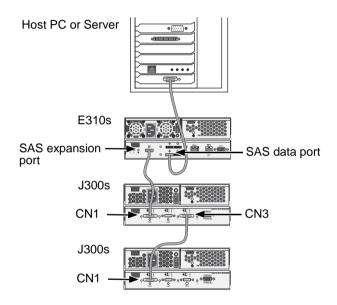
*Figure 17.  VTrak E310s cascaded data connections*

*Figure 18. VTrak E310s cascaded management and data connections*

Network Switch



VTrak

Host PC or Server

VTrak

VTrak

## Configuring JBOD Expansion

To expand the number of disk drives:

1.  On the E310s controller, connect the SAS expansion port (a subtractive-routed port) to the CN1 (a table-routed port) on one of the I/O modules of the first J300s unit. See Figure 19.

2.  Connect CN3 (a subtractive-routed port) on the first J300s unit to CN1 on one of the I/O modules of the next J300s unit.

3.  Connect the remaining J300s units in the same manner.

*Figure 19. VTrak E310s JBOD data connections*



You can expand a SAN system with no single point of failure. See Figure 20. Such an arrangement requires:

*   Two SAS HBA cards in each Host PC or Server
*   A network switch (not shown)
*   A network interface card (NIC) in each Host PC or Server
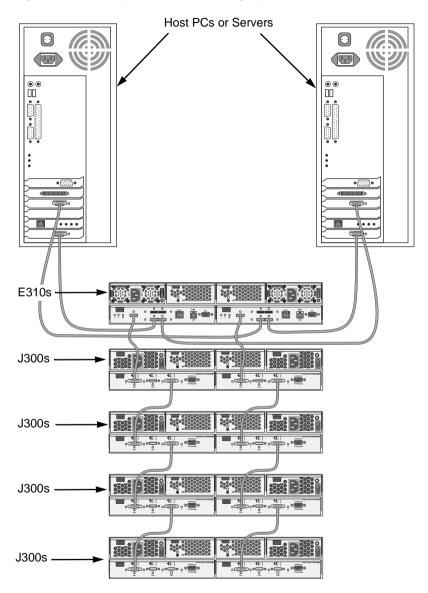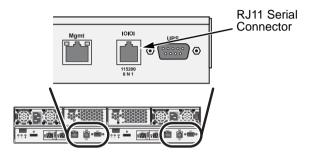*   One to four VTrak J300s JBOD subsystems

*Figure 20.  JBOD expansion with no single point of failure*



This completes Network and Data connections for VTrak E310s. Go to "Step 5: Making Serial Cable Connections" on page 22.

# *Step 5: Making Serial Cable Connections*

RS232 serial communication enables the Command Line Interface (CLI) and Command Line Utility (CLU) on your PC to monitor and control the VTrak. On VTrak, RS232 communication goes through the RJ11 serial connector on each controller.

*Figure 21. Serial communication goes through the RJ11 connector*



To set up a serial cable connection:

1. Attach the RJ11 end of the RJ11-to-DB9 serial data cable, supplied with the VTrak, to the RJ11 serial connector on one of the controllers.

2. Attach a null-modem cable to the DB9 end of the RJ11-to-DB9 serial data cable.

3. Attach the other end of the null-modem cable to a serial port on the Host PC or Server.

You will establish a serial connection on the Host PC or Server in Step 7 (see page 25). At this time, continue with Step 6.

**Note**

The DB9 connector on the VTrak controller is for a UPS support, which is planned for a future release.

# Step 6: Connecting the Power

Plug the power cords and switch on both power supplies on. When the power is switched on, the LEDs on the front of the VTrak will light up.

***Figure 22. VTrak E310f/s front panel LED display***



When boot-up is finished and the VTrak is functioning normally:

- Controller LED blinks green once per second for five seconds, goes dark for ten seconds, then blinks green once per second for five seconds again.
- Power, FRU and Logical Drive LEDs display green continuously.
- Controller LEDs flash green if there is activity on that controller.

There are two LEDs on each Drive Carrier. They report the presence of power and a disk drive, and the current condition of the drive.

***Figure 23. VTrak E310f/s disk carrier LEDs***



After a few moments the Power/Activity should display Green. If there is no disk drive in the carrier, the Power/Activity LED will remain dark.

The Power/Activity LED flashes during drive activity.

The Disk Status LED displays Green when a drive is present and configured.

# *Step 7: Setting the IP Address*

VTrak has a Command Line Interface (CLI) to manage all of its functions, including customization. A subset of the CLI is the Command Line Utility (CLU), a user-level interface that manages your VTrak via your PC's terminal emulation program, such as Microsoft HyperTerminal. This procedure uses the serial cable connection you made in Step 5 (see page 22).

You will use the CLU to assign an IP address to the VTrak to enable a network connection for WebPAM PROe.

1. Change your terminal emulation program settings to match the following specifications:
   - Bits per second: 115200
   - Data bits: 8
   - Parity: None
   - Stop bits: 1
   - Flow control: none
2. Start your PC's terminal VT100 or ANSI emulation program.
3. Press Enter once to launch the CLI.
4. At the Login prompt, type **administrator** and press Enter.
5. At the Password prompt, type **password** and press Enter.

   At this point, you are in the CLI. You can continue using the CLI to make network settings or you can switch to the CLU. Go to:
   - Setting up with the CLI (page 26)
   - Setting up with the CLU (page 27)

## Setting up with the CLI

1. Type the following string to set the system date and time, then press Enter.

   administrator@cli> **date -a mod -d 2006/08/25 -t 14:50:05**

   In the above example, the date and time are included as examples only. Your values will be different. Use yyyyy/mm/dd for the date and a 24-hour clock for the time.

2. Type the following string to set the Management Port IP address and other settings, then press Enter.

   administrator@cli> **net -a mod -t mgmt -s "primaryip=192.168.10.85, primaryipmask=255.255.255.0, gateway=192.168.10.1"**

   In the above example, the IP addresses and subnet mask are included as examples only. Your values will be different.

   If you prefer to let your DHCP server assign the IP address, type the following string, then press Enter.

   administrator@cli> **net -a mod -t mgmt -s "dhcp=enable"**

   Note that the IP address described above belongs to the VTrak subsystem, not to the RAID controller. Use this IP address to log into the VTrak over your network.

3. To verify the settings, type **net** and press Enter.

   administrator@cli> **net**

   ```
   ==========================================
   CId Port Type  IP             Mask            Gateway       Link
   ==========================================
   1   1    Mgmt  192.168.10.85  255.255.255.0   192.168.10.1  Up
   ```

This completes the Management port setup. Go to "Step 8: Creating Disk Arrays with WebPAM PROe" on page 29.

To see the full set of CLI commands, at the admin@cli> prompt, type **help** and press Enter.

## Setting up with the CLU

1. At the administrator@cli> prompt, type **menu** and press Enter.

   The CLU main menu appears.

*Figure 24. CLU main menu*



2. With *Quick Setup* highlighted, press Enter.

   The first Quick Setup screen enables you to make Date and Time settings.

### Setting system date and time

1. Press the arrow keys to highlight *System Date*.
2. Press the backspace key to erase the current date.
3. Type the new date.
4. Follow the same procedure to set the System Time.
5. Press Ctrl-A to save these settings and move to the Management Port configuration screen.

### Making Management Port settings

By default, DHCP is disabled on VTrak and the default Management Port address is set to 10.0.0.1.

Note that the IP address described here belongs to the VTrak subsystem, not to the RAID controller. Use this IP address to log into the VTrak over your network.

#### Manual IP settings

To make Management Port settings manually:

1. Press the arrow keys to highlight *IP Address*.
2. Press the backspace key to erase the current IP Address.

3.  Type the new IP Address.

4.  Follow the same procedure to specify the Subnet Mask, Gateway IP Address and DNS Server IP Address.

    If you do not have a DNS server, skip the DNS Server IP address.

5.  Press Ctrl-A to save your settings.

**Automatic IP settings**

To make Management Port settings automatically:

1.  Press the arrow keys to highlight *DHCP.*

2.  Press the spacebar to toggle to *Enable.*

3.  Press Ctrl-A to save these settings.

## Viewing IP address and settings

To view the current IP address and network settings when using DHCP:

1.  Press the arrow keys to highlight *DHCP.*

2.  Press the spacebar to toggle to *Disable*.

    The current Management Port settings are displayed.

3.  Press the spacebar to toggle DHCP back to *Enable*.

4.  Press Ctrl-A to save these settings and move to the RAID configuration screen.

## Exiting the CLU

1.  Highlight *Skip the Step and Finish* and press Enter.

2.  Highlight *Return to CLI* and press Enter.

This completes the Management Port setup. Go to "Step 8: Creating Disk Arrays with WebPAM PROe" on page 29.

# *Step 8: Creating Disk Arrays with WebPAM PROe*

> **Note**
>
> You can also use the CLU to create disk arrays and logical drives. See Chapter 5 of the *VTrak E-Class Product Manual* for more information.

Setting up disk arrays with WebPAM PROe consists of the following actions:

- Logging into WebPAM PROe (below)
- Selecting a Language (page 31)
- Creating a Disk Array (page 31)
- Logging out of WebPAM PROe (page 35)

## Logging into WebPAM PROe

1. Launch your Browser.
2. In the Browser address field, type in the IP address of the VTrak subsystem.

   Use the IP address you obtained in Step 7 (see page 27). Note that the IP address shown below is only an example. The IP address you type into your browser will be different.

### Regular Connection

- WebPAM PROe uses an HTTP connection. . . . . . . . . . . . . . .http://
- Enter the VTrak's Management Port IP address . . . . 192.168.10.85

Together, your entry looks like this:

> **http://192.168.10.85**

### Secure Connection

- WebPAM PROe uses a secure HTTP connection. . . . . . . . . .https://
- Enter the VTrak's Management Port IP address . . . . 192.168.10.85

Together, your entry looks like this:

> **https://192.168.10.85**

> **Note**
>
> Whether you select a regular or a secure connection, your login to WebPAM PROe and your user password are always secure.

3. When the log-in screen (Figure 21) appears:
   • Type **administrator** in the User Name field.
   • Type **password** in the Password field.
   • Click the **Login** button.

   The User Name and Password are case sensitive.

**Figure 25. WebPAM PROe log-in screen**



After sign-in, the WebPAM PROe opening screen appears. If there are any unconfigured physical drives in the enclosure, an Array Configuration menu will also appear (see page 31).

| | **Note** |
|---|---|
| | Make a Bookmark (Netscape Navigator) or set a Favorite (Internet Explorer) of the Login Screen so you can access it easily next time. |

## Selecting a Language

WebPAM PROe displays in English, German, French, Italian, Japanese, Chinese Traditional, Chinese Simple, and Korean.

1.  Click **Language** on the WebPAM PROe banner.

    The language list appears in the Header.

2.  Click on the language you prefer.

    The WebPAM PROe user interface displays in the selected language.

*Figure 26. Clicking "Language" on the WebPAM PROe banner*

| Language | View | Storage Network | Contact Us | Logout | Help | About |

## Creating a Disk Array

On a newly activated VTrak subsystem, there are no disk arrays or logical drives. To create a disk array:

1.  Click on the Disk Arrays 📚 icon, then click on the Create tab.

    The Array Configuration menu appears. See Figure 27.

2.  Choose one of the options:

    •   **Automatic** – Creates a new disk array based on a default set of parameters, including one logical drive. The number of unconfigured physical drives available determines the RAID level of the disk array and whether a spare drive is created. See page 32.

    •   **Express** – Creates a new disk array based on the characteristics you specify. You can create multiple logical drives. However, all of the logical drives will be the same size and RAID level. See page 33.

    •   **Advanced** – Enables you to directly specify all parameters for a new disk array and its logical drives. See page 34.

3.  Click the **Next** button.

***Figure 27. The Array Configuration menu***



## Automatic

When you choose the Automatic option, the following parameters appear on the screen:

- **Disk Arrays** – The number of physical drives in the disk array, their ID numbers, configurable capacity, and the number of logical drives to be created
- **Logical Drives** – The ID number of the logical drives, their RAID level, capacity, and stripe size
- **Spare Drives** – The physical drive ID number of the dedicated hot spare assigned to this disk array

If you accept these parameters, click the **Submit** button. The new disk array appears in the Disk Array List on the Information tab.

If you do NOT accept these parameters, use the Express (page 33) or Advanced (page 34) option to create your disk array.

## Express

When you choose the Express option, a set of characteristics and options appears on the screen.

1.  Check the boxes to select any one or a combination of:

    •   **Redundancy** – The array will remain available if a physical drive fails
    •   **Capacity** – The greatest possible amount of data capacity
    •   **Performance** – The highest possible read/write speed
    •   **Spare Drive** – A hot spare drive

2.  In the Number of Logical Drives field, enter the number of logical drives you want to make from this disk array.

    The maximum possible number of logical drives appears to the right of this field.

3.  From the Application Type menu, select an application that best describes your intended use for this disk array:

    •   File Server
    •   Video Stream
    •   Transaction Data
    •   Transaction Log
    •   Other

4.  Click the **Update** button.

    Or check the Automatic Update box and updates will occur automatically.

    The following parameters display:

    •   **Disk Arrays** – The number of physical drives in the disk array, their ID numbers, configurable capacity, and the number of logical drives to be created
    •   **Logical Drives** – The ID number of the logical drives, their RAID level, capacity, and stripe size
    •   **Spare Drives** – The physical drive ID number of the dedicated hot spare assigned to this disk array

    If you accept these parameters, proceed to the next step.

    If you do NOT accept these parameters, review and modify your selections in the previous steps.

5.  When you are done, click the **Submit** button.

    The new disk array appears in the Disk Array List on the Information tab.

### Advanced

> **Note**
>
> For an explanation of the parameters under the Advanced option, see Chapter 7 of the *VTrak E-Class Product Manual*.

When you choose the Advanced option, the *Step 1 – Disk Array Creation* screen displays.

1. Enter a name for the disk array in the field provided.

2. Check the box to enable the following features.

    • **Media Patrol** – A routine maintenance procedure that checks the magnetic media on each disk drive. Media Patrol is concerned with the condition of the media itself, not the data recorded on the media.

    • **PDM** – Predictive Data Migration (PDM) scans the bad sector remapping table of the disk drives assigned to a logical drive. When the table fills to a specified percentage of its capacity, PDM triggers a migration of data from the suspect drive (the disk drive with the bad sectors) to a spare disk drive.

3. Highlight the physical drives you want in the disk array from the Available list and press the **>>** button to move them to the Selected list.

    You can also double-click them to move them.

4. When you are done, click the **Next** button.

    The *Step 2 – Logical Drive Creation* screen displays.

5. Enter an Alias (name) for the first logical drive.

6. Choose a RAID level from the dropdown menu.

    The choice of RAID levels depends on the number of physical drives you selected.

7. RAID 50 and 60 only. Choose the number of axles from the dropdown menu.

8. Specify a Capacity and the unit of measure (MB, GB, or TB).

    This value will be the data capacity of the logical drive. If you specify less than disk array's maximum capacity, the remainder is available for additional logical drives.

9. Specify a Stripe size from the dropdown menu.

    64, 128, 256, 512 KB, and 1 MB are available. 64 KB is the default.

10. Specify a Sector size from the dropdown menu.

    512 Bytes, 1, 2, and 4 KB are available. 512 Bytes is the default.

11.  Choose a Read Cache policy:
- ReadCache
- ReadAhead
- No Cache

12.  Choose a Write Cache policy:
- WriteThru
- WriteBack

13.  Choose the Preferred Controller ID.

    You can make a selection when LUN Affinity is enabled. Choose *1*, *2*, or *Automatic*.

14.  RAID 6 and 60 only.

    Choose the number of parity drives from the dropdown menu.

15.  Click the **Update** button.

    When you click the Update button, WebPAM PROe sets up one logical drive and adds it to the New Logical Drive lists at the bottom of the *Step 2 – Logical Drive Creation* screen.

    Repeat the above steps to specify additional logical drives as desired.

16.  When you have finished specifying logical drives, click the **Next** button.

    The *Step 3 – Summary* screen displays with the proposed disk array and logical drives you specified.

17.  If you agree with the proposed disk array and logical drives, click the **Submit** button.

    If you disagree, click the **Back** button and make changes as needed.

## Logging out of WebPAM PROe

There are two ways to log out of WebPAM PROe:

- Close your browser window
- Click **Logout** on the WebPAM PROe banner

***Figure 28.Clicking "Logout" on the WebPAM PROe banner***



Clicking **Logout** brings you back to the Login Screen. See page 30.

After logging out, you must enter your user name and password in order to log in again.

# *Contacting Technical Support*

Promise Technical Support provides several support options for Promise users to access information and updates. We encourage you to use one of our electronic services, which provide product information updates for the most efficient service and support.

If you decide to contact us, please have the following information available:

- Product model and serial number
- BIOS, firmware and driver version numbers
- A description of the problem or situation
- System configuration information, including: motherboard and CPU type, hard drive models, SAS/SATA/ATA/ATAPI drives & devices, and other controllers.

## Technical Support Services

| | |
| --- | --- |
| Promise Online™ Web Site | http://www.promise.com/support (technical documents, drivers, utilities, etc.) |

**United States**

| | |
| --- | --- |
| Email Support | e-Support On-Line |
| Fax Support | (408) 228-1097 Attn: Technical Support |
| Phone Support | (408) 228-1400 option 4 |
| If you wish to write us for support: | Promise Technology, Inc. 580 Cottonwood Drive Milpitas, CA 95035, USA |

## The Netherlands

| | |
|---|---|
| Email Support | e-Support On-Line |
| Fax Support | +31 (0) 40 256 9463 Attn: Technical Support |
| Phone Support | +31 (0) 40 235 2600 |
| If you wish to write us for support: | Promise Technology Europe B.V. Science Park Eindhoven 5542 5692 EL Son, The Netherlands |

## Germany

| | |
|---|---|
| Email Support | e-Support On-Line |
| Fax Technical Support | +49 (0) 2 31 56 76 48 - 29 Attn: Technical Support |
| Phone Technical Support | +49 (0) 2 31 56 76 48 - 10 |
| If you wish to write us for support: | Promise Technology Germany Europaplatz 9 44269 Dortmund, Germany |

## Italy

| | |
|---|---|
| Email Support | e-Support On-Line |
| Fax Support | +39 06 367 124 00 Attn: Technical Support |
| Phone Support | +39 06 367 126 26 |
| If you wish to write us for support: | Promise Technology Italy Piazza del Popolo 18 00187 Rome, Italy |

**Taiwan**

| | |
|---|---|
| Email Support | e-Support On-Line |
| Fax Support | +886 3 578 2390 Attn: Technical Support |
| Phone Support | +886 3 578 2395 (ext. 8811) |
| If you wish to write us for support: | Promise Technology, Inc.<br>2F, No. 30, Industry E. Rd. IX<br>Science-based Industrial Park<br>Hsin-Chu 30075, Taiwan (R.O.C.) |

**China**

| | |
|---|---|
| Email Support | support@promisechina.com |
| Fax Support | +86-10-8857-8015 Attn: Technical Support |
| Phone Support | +86-10-8857-8085/8095 |
| If you wish to write us for support: | Promise Technology China<br>Room 1205, Tower C<br>Webok Time Center, No.17<br>South Zhong Guan Cun Street<br>Hai Dian District, Beijing 100081, P.R. China |

**Caution**

- There is a risk of explosion if the battery is replaced by the incorrect type.
- Dispose of used batteries according to the instructions that accompany the battery.